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Personality, social background, and occupational career success

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Abstract

Pooled cross-sectional and life-history data from the Dutch Family Survey 1998 and 2000 ($N = 4000$) were used to investigate whether personality was directly related to income attainment and occupational career transitions after controlling for human capital indicators, working hours, and parental social background. The results indicated that there were substantive direct relations between personality traits and occupational career success. Extraversion related positively to remuneration but only for men. Emotional stability was positively related to remuneration for both genders. Agreeableness was not associated with career outcomes. Conscientiousness was negatively related to women's upward status mobility. Openness to experience was negatively related to earnings, but only for men. Model comparisons indicated that models of career success that excluded personality traits had to be rejected. It is concluded that personality characteristics contribute importantly to earnings and status attainment, in addition to sociological variables.

Keywords: Personality traits; Big Five; Occupational career success; Income attainment; Job mobility; Career mobility

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1. Introduction

Sociological research on the determinants of occupational careers is quite extensive. Generally, it deals with the impact of demographic, human capital, industry, and organizational variables as well as labor market conditions on an individual's job mobility and its outcomes (Rosenfeld, 1992; Seibert and Kraimer, 2001). However, common wisdom has it that personality traits also matter for people's career advancement. Several studies have gauged this presumed impact of dispositional factors on educational and occupational career success, in addition to sociological characteristics (Day et al., 1998; Judge et al., 1999; Seibert and Kraimer, 2001; van Eijck and de Graaf, 2001). Sociological studies take into account the dynamic nature of one's occupational career, but generally do not assess the relationships with personality factors; social–psychological vocational studies, on the other hand, have recognized the potential value of personality factors, but pay less attention to the dynamic nature of people's occupational careers and intervening variables such as human capital and motivational variables. Boudreau et al. (2001) correctly argue that an analysis of career success should, ideally, take into account both the dynamic nature of people's occupational career as well as the potential explanatory value of individual dispositions.

In this contribution, we seek to combine knowledge from vocational psychology and sociology. Specifically, the purpose of this study is to examine the extent to which personality factors are directly related to aspects of career success, controlling for sociological variables. In particular, we formulate hypotheses about the relations between personality traits and income attainment and on the likelihood of experiencing a transition to a higher or lower status job. To conceptualize and measure personality traits, we use the prevailing personality model in vocational psychology, the widely used Big Five model.

The most recent and encompassing studies on the relationship between personality traits and career success (e.g. Boudreau et al., 2001; Judge et al., 1999; Seibert and Kraimer, 2001) are mostly based on relatively selective US samples with a narrow range of occupations. Our study seeks to improve on these earlier studies in several ways. First of all, we analyze pooled cross-sectional and life history data of two Dutch nationally representative samples of men and women: the Dutch Family Survey 1998 and 2000 ($N = 4000$), which include men and women, aged 18–70, at the time of the interview. The nature of these samples allows us to investigate career success for the complete range of occupations. Furthermore, we gain insight into the extent to which personality traits relate to career success in non-US samples. The data also include detailed retrospective information about people's complete labor market careers and their socio-demographic background characteristics. This enables us to analyze job episodes and to include time-dependent covariates, such as labor market experience. Finally, we methodologically advance on earlier studies, by showing that selectivity bias—due to differential labor market participation of men and women—may significantly affect the results of studies on career success. We apply the Heckman regression procedure to assess and control such selectivity bias.

2. Related literature and hypotheses

The Big Five personality factors are generally acknowledged as relevant and valid dimensions of personality in various fields of research (de Raad, 2000; Goldberg, 1992; van Eijck and de Graaf, 2001). As Seibert and Kraimer (2001) point out, this emerging consensus defines the following five—presumably orthogonal—dimensions as substantive to the Big Five model of personality. Emotional stability indicates lack of positive psychological adjustment (neuroticism) vs. emotional security. High scorers are low in anxiety and other negative affects, and have a high tolerance for stress. High levels of extraversion indicate sociability, warmth, assertiveness, and activity, whereas individuals low on extraversion may be described as reserved, sober, aloof, and introverted. Openness to experience is defined in terms of curiosity and the tendency for seeking and appreciating new experiences and novel ideas. Individuals who score low on openness are characterized as conventional, inartistic, and narrow in interests. Agreeableness is one's interpersonal orientation, ranging from soft-hearted, good-natured, trusting, and gullible at one extreme to cynical, rude, suspicious, and manipulative at the other. Finally, conscientiousness indicates the individual's degree of organization, persistence, and motivation in goal directed behavior. Achievement-orientation and dependability or conformity has been found to be related to conscientiousness.

We expect that some of these dispositional traits will be more appropriate for career success and will further it more than other traits, even if we control for several other career determining variables. Several hypotheses with respect to the direct impact of personality on extrinsic and intrinsic career success have been advanced and tested in the literature. Most of these studies were not focused specifically on career success or used only a single personality trait to predict a single indicator of career success, such as salary. More recent and encompassing studies are by Boudreau et al. (2001), Judge et al. (1999), and Seibert and Kraimer (2001). These studies include all five dimensions of the Big Five personality model and focused on their relationships with intrinsic and extrinsic career success. These studies have in common that they all analyze data from the United States (the Boudreau et al. study additionally analyzes European data), but differ with respect to the specific nature of the samples, the dependent variables to measure career success, and the control variables. Judge et al. (1999) analyzed a longitudinal sample of children spanning 50 years, and their dependent variable consisted of a construct with income and occupational status as indicators. Their most important control variable was childhood general mental ability. Boudreau et al. (2001) analyzed a sample of executives in the United States and Europe, with remuneration, ascendancy, CEO proximity and employability rating as dependent variables. In their study, effects of personality traits on these indicators for career success were controlled for the impact of motivational and human capital variables. Finally, Seibert and Kraimer (2001) analyzed a sample of employees from various organizations to assess the effects of personality traits on the salary of these employees and the number of promotions these employees had experienced. They controlled for human capital variables, and they also considered the impact of the level of urbanization, the number of employees within the organization and

whether the job was a people-oriented occupation. Because the focus of this paper is on extrinsic career success, in the following we will only discuss their hypotheses and findings with respect to the extent to which personality is relevant for income attainment and status mobility during one's career.

In accordance with these prior studies, we expect, first of all, that extraversion will be positively related to extrinsic career success. Extraverts show high levels of activity, dominance, and ambitiousness. These traits are typically valued and rewarded in employees, especially at higher levels and in positions of leadership. High levels of assertiveness and excitement seeking also characterize them. Therefore, extraverts will be more likely to deal with unsatisfactory work situations and they will be strongly motivated to enhance their career, seeking new challenges, because working in a higher position may better satisfy their vocational needs. Findings of all three studies mentioned above corroborate the hypothesis that extraversion is positively related to career outcomes.

Furthermore, we anticipate that conscientiousness will have a positive association with career success. Conscientiousness is the trait that has been drawn upon as a main psychological resource in situations in which achievement is an important value; those situations are especially contexts of work, learning, and education. The construct represents the drive to accomplish something, and it contains the characteristics necessary in such a pursuit: being organized, systematic, efficient, practical, and steady (de Raad, 2000, p. 92). Conscientious people are characterized by a strong achievement motivation, and a strong commitment to the attainment of goals. In particular, conscientiousness is manifested in three related facets—achievement orientation (hardworking and persistent), dependability (responsible and careful), and orderliness (planful and organized). Conscientiousness seems to enable persons to obtain promotions into more complex and prestigious jobs (Judge et al., 1999).

With respect to the association between agreeableness and career success, the formulation of a hypothesis is not as straightforward as in the previous two cases. Agreeable persons are cooperative (trusting of others and caring) as well as likeable (good natured, cheerful, and gentle). Thus, it can be argued that the cooperative nature of agreeable persons may lead to more successful careers, particularly in occupations where teamwork or customer service is relevant. In those instances, agreeableness may be a positive individual attribute. However, one can also think of careers in which high levels of agreeableness would be of little help or even a hindrance. For example, extremely agreeable persons may sacrifice their success in pleasing others, or agreeableness may not be valued in occupations where a critical attitude is necessary, such as in scientific research. In other words, 'nice guys may finish last' (Seibert and Kraimer, 2001). Thus, the direct impact of agreeableness on career success may either be positive or negative. The empirical evidence, however, seems to point to a negative relationship. Judge et al. (1999) found that agreeableness is negatively related to extrinsic career success. In accordance with these findings, we predict that agreeableness will be negatively related to career success.

Next, we anticipate that high levels of emotional stability in individuals will lead to more success in one's occupational career. As Judge et al. (1999) point out, low emotional stability leads to at least two related tendencies, one dealing with anxi-

ety—stress proneness—, the other dealing with one's well-being—personal insecurity and depression. Seibert and Kraimer (2001) argue on the basis of activation theory that either too much or too little external stimulation can lead to poor task performance. According to them, individuals scoring low on emotional stability experience performance decrements at lower activation levels and thus are less suited to higher-level jobs that are more complex and supply more stress. All three studies also found empirical evidence for the existence of a positive effect of emotional stability on career outcomes.

Prior studies have been reluctant to formulate a hypothesis about the association between openness to experience and career success, partly because there is not much empirical evidence relating openness to experience to career advancement. However, there are some indications to expect that being higher on openness to experience will have negative consequences for an individual's career success. Although it can be argued that the flexibility, creativity, and intellectual orientation of open individuals may be instrumental to success in many occupations, the expectation of a negative effect on career success also appears to have some validity: open individuals may be prone to job hopping or may be unhappy in conventional occupations (Judge et al., 1999). Seibert and Kraimer (2001) also found that openness to experience is negatively related to extrinsic career success in terms of salary level. Thus, we expect that the more an individual is open to experience, the less likely he or she will make positive career advances.

To sum up, the following hypotheses will be tested in this study:

Hypothesis 1. Holding other variables constant, income attainment will be positively related to extraversion, conscientiousness, and emotional stability, and negatively related to agreeableness and openness to experience.

Hypothesis 2. Holding other variables constant, upward status moves will be positively related to extraversion, conscientiousness, and emotional stability, and negatively related to agreeableness and openness to experience. Downward status moves will be negatively related to extraversion, conscientiousness, and emotional stability, and positively related to agreeableness and openness to experience.

3. Data, measurements, and methods

3.1. Data

Two cross-sectional datasets, which contain life-history information about people's educational, occupational, and demographic careers, are used to examine the relation between personality traits and career success. The first is the Family Survey Dutch Population 1998 (de Graaf et al., 1999), the second is the Family Survey Dutch Population 2000 (de Graaf et al., 2002). We stacked these two data sets to increase the number of cases, and thus to enhance the statistical power of our analysis. Both datasets contain information of primary respondents and spouses. The target population is the Dutch speaking population of The Netherlands, aged 18–70 years

old, with an over-sample of the married and cohabiting population. The primary respondents have been sampled from a stratified sample of population registrations of Dutch municipalities. Stratification of the sample has been made on urbanization and region. In 1998, 1140 primary respondents and 889 partners have been interviewed, in 2000, 850 primary respondents and 711 partners. The contact rate[1] of the 1998 survey was 91.1%, and 54.4% of those contacted cooperated with the face-to-face interview, yielding a response rate for the 1998 survey of ($54.4 \times 91.1 =$) 49.6%. The contact rate for the 2000 survey was 85.7%, and 47.4% of those contacted cooperated with the face-to-face interview, which results in a response rate of 40.6% for the 2000 survey. Low response rates have become common in The Netherlands, but in this particular survey the response rates are relatively low because both the respondent and the spouse need to cooperate for an interview.

3.2. Measurements

The two dependent variables of this study are income attainment and socio-economic status mobility. Income refers to the monthly labor income of the respondents at the moment of the survey. Incomes are corrected for the inflation in salaries, which occurred between 1998 and 2000. Income is operationally defined as the logarithmic transformation of the net monthly income from paid employment or from self-employment. The logarithmic transformation reduces the pronounced positive skewness of income, which may bias standard errors on which significance tests are based. Specifically, in a model without the transformation the error in the predicted values of income is likely to be correlated with observed income. On theoretical grounds the logarithmic transformation is attractive since it is plausible that each proportionate increase in income would produce about the same increase in utility (Ornstein, 1983). The logarithmic transformation makes the interpretation of the effects of personality and other predictor variables on income more straightforward than in models without the transformation. In general the interpretation is: when the effect of a predictor variable x on the logarithm of income equals b, this means that one unit change in x makes for a proportional change of b in income. For example, in one of our models the effect of educational attainment on log(income) equals 0.042, which means that respondents with 12 years of schooling make 4.2% more income than respondents with 11 years of schooling.

We not only investigate whether personality affects career success (or lack of success) at the moment of the survey as measured by the respondents' monthly income, but we also analyze upward, downward, and lateral jobs shifts in the respondents' careers. Since retrospective information on income is not available in our data set, our measurement of the occupational career is based on the detailed information respondents have provided about all jobs they had during their working life, starting in the year they left school, and ending at the moment of the survey. Respondents

[1] Contacted persons compared to the total sample.

completed a roster, in which they had to fill in the job titles, the type of work, type of firm, and the beginning and ending data of all jobs they have had. Thus, we have detailed information of complete job trajectories for a representative sample of the Dutch population. The occupations of the respondents have been coded into the Standard International Socio-Economic Index of Occupational status (ISEI) (Ganzeboom et al., 1992). This socio-economic status scale has a range from 10 to 90. At the bottom are unskilled manual jobs in which wages and levels of education are low and at the top are the professionals, proprietors, and managers. Next, we have defined three types of occupational status mobility. First, when people change to a new employer or to a new function with the same employer and if this new job has a higher socio-economic status than the previous position, this is an upward job shift. Second, if the new job has a lower socio-economic status than the previous position, it is a downward job shift. Third, if the new job has the same socio-economic status than the previous position, it is defined as a lateral job shift. Note that a respondent can have experienced more than one event during his or her occupational career and can have experienced different types of events. In Section 3.3 below, we will explain how we deal with multiple events.

The personality variables of interest to this paper—extraversion, agreeableness, conscientiousness, stability and openness to experiences—were measured using a Dutch version of a standardized, shortened scale for the Big Five personality traits (Gerris et al., 1998). Originally, Goldberg (1992) used 100 markers to measure the five personality traits, that is 20 markers for each trait. Gerris et al. (1998) brought the number of markers back to 30 characteristics, that is six markers for each personality trait. Table A1 of the appendix presents the markers used in their shortened version. The limitation to six markers for each trait makes the data collection more efficient, but there is a potential risk that the short versions do not assess the constructs that they are intended to measure. Fortunately, the data used by Gerris et al. (1998) to develop the shortened version of the Big Five personality traits allowed us to compare Goldberg's well-accepted long version with the shortened version. Their questionnaire contained the complete set of 100 markers and thus we were able to compute correlations between the long and the short versions of the Big Five personality traits, separately for men and women.

The Pearson's correlation coefficients varied between $r = .783$ (openness for men) and $r = .919$ (extraversion for men), with the average construct validity being rather high ($r = .851$ for men and $r = .860$ for women). We note that with respect to the emotional stability scale, there appears to be a relatively strong emphasis on low anxiety, but overall the evidence allows for the conclusion that the shortened version with six markers per trait is a valid representation of the original 20 markers per trait. Prior to analysis, we standardized personality scores to z-scores. Table 1 shows the descriptive statistics for the five personality traits in our data, together with reliability estimates and t tests to compare men to women on each personality trait.

Women have a significantly higher score on extraversion, agreeableness and conscientiousness, whereas men score significantly higher on emotional stability and

Table 1
Descriptive statistics of the Gerris et al. six-item scales for measuring the Big Five personality traits

	Men			Women			*t* Test: difference between men and women
	Mean	SD	Reliability	Mean	SD	Reliability	
Extraversion	4.629	1.120	.858	4.806	1.079	.856	**
Agreeableness	5.450	.721	.833	5.592	.676	.833	**
Conscientiousness	4.951	1.074	.880	5.144	1.042	.875	**
Stability	4.776	.994	.821	4.362	1.000	.806	**
Openness	4.625	1.032	.803	4.457	1.046	.800	**
N	1779			1811			

** $p < .01$.

openness to experience. These differences are well in accordance with previous findings by Goldberg et al. (1998) and Feingold (1994).

As control variables, we use several important demographic and social characteristics, which have been previously identified within the literature on socio-economic attainment. First, we control for characteristics of the parental background: level of education of the father and the mother, and the socio-economic status of the father's job. Parental educational attainment is indicated by the number of years 'usually necessary' to attain a certain level of schooling (van Eijck and de Graaf, 2001). Socio-economic status is measured using the Standard International Socio-economic Index of Occupational Status (Ganzeboom et al., 1992). We further control for the effects of the respondent's year of birth and the year of survey (with the year of reference being 1998). In the analysis of job mobility, we also control for the effects of a respondent's marital status (the reference being 'not married') and whether the respondent is a parent of a child, which is younger than 6-years old (the reference being 'not having a child younger than 6-years old'). Another control variable is the type of job change: whether the change in the job episode is a change of function at the same employer or a change of employer. Here, the reference category is a 'change of employer.' In addition, we include labor market experience, which is measured as the number of years since start of the first job, its quadratic term, as well as the respondent's current weekly working hours. Note that in the analysis of status mobility, these are time-varying covariates. In the analyses we further include the socioeconomic status of the respondent's current job.

A second set of control variables consists of human capital indicators. These include the highest completed (or present) education, which is also measured by the number of years 'usually necessary' to attain a certain level of schooling. Note that this variable is a time-constant covariate in the analysis of status mobility. This set also includes the total number of jobs, which the respondent has had. This variable is a time-varying covariate. Descriptive statistics of these variables are presented in Table 2.

Table 2
Descriptive statistics of explanatory variables

Variable	*N*	Mean	SD	Min	Max
Sex (ref. = women)	3131	.50		0	1
Year of birth	3131	1957	10.98	1934	1982
Level of education father	3048	9.56	3.41	6	20
Level of education mother	3074	8.64	2.68	6	20
Occupational status father	3063	45.08	16.24	10	90
Married (ref. = no)[a]	3131	.78		0	1
Child younger than 6 (ref. = no)[a]	3131	.25		0	1
Type of job change (ref. = employer change)[a]	3131	.05		0	1
Year of survey (ref. = 1998)	3131	.42		0	1
Extraversion (*z*-scores)	3056	0	1.00	−3.25	2.09
Agreeableness (*z*-scores)	3056	0	1.00	−5.55	2.12
Conscientiousness (*z*-scores)	3056	0	1.00	−3.82	1.85
Stability (*z*-scores)	3056	0	1.00	−3.52	2.39
Openness to experience (*z*-scores)	3056	0	1.00	−3.48	2.37
Level of education	3129	11.85	3.08	6	20
Labor market experience in years[a]	3131	15.76	11.13	0	48
Labor market experience in years^{2}[a]	3131	372.23	440.78	0	2304
Number of previous employers[a]	3131	4.20	2.35	1	16
Occupational status of current job[a]	2158	51.36	15.74	10	90
Current weekly working hours[a]	2580	34.81	13.02	2	150

Note. Descriptive statistics on the basis of cross-sections from the survey-years 1998 and 2000.
[a] Denotes a time-varying covariate in the competing risks models.

3.3. Methods

For the analysis of income attainment, we constructed a pooled cross-sectional file of both data sets, as income was only measured at the time of both surveys. Because we analyze men and women's earnings at the time of the surveys, we meet the problem that many individuals, mostly women, will not be gainfully employed and, therefore, for these individuals income is not observed. This may introduce selectivity bias in the income equation because the outcome variable is only partly observed for the original sample, and running a conventional linear regression on the sub-sample with complete observations will be inconsistent for the population parameters, unless the sub-sample happens to be a random subset of the original. Provided that the original sample is random, it is possible to utilize simplified estimation procedures that take account of sample selection, yielding consistent estimates of the population parameters (Tunali, 1986). The best known of these procedures is that developed by Heckman (1979), which incorporates the qualitative information on the selection process into the regression model by assuming a multivariate normal structure. We applied the Heckman procedure to take into account that income is only observed for men and women who work. The Heckman procedure produces regression weights and standard errors that are unbiased by the selection effects. In estimating these parameters, the procedure involves the specification of two models: the regression equation

of interest, and a selection equation, which includes variables thought to determine whether the dependent variable in the regression equation is observed or missing. The procedure provides an estimate of the coefficient ρ, which is the correlation between residuals of the regression equation and the selection equation. This is an index of the size of the selection effect. A Wald test of independent equations can be used to test whether this correlation is zero (i.e., there is no selection effect). Note that we also corrected the standard errors of the parameters for the dependence between observations from the same household.[2]

To analyze the relationship between personality traits and job mobility in a multivariate framework, we use a discrete-time version of event history analysis (Allison, 1984; Yamaguchi, 1991). Methods of event history analysis are well-known regression methods for analyzing longitudinal time-to-event data. They are employed in many disciplines, such as epidemiology, sociology, political sciences, and econometrics. Discrete-time versions are simple and good approximation of continuous-time models as long as the conditional probabilities of experiencing the event are reasonably small at the discrete time points (Yamaguchi, 1991, p. 17). We estimate models for the transition to either a better job (upward job shifts), a worse job (downward job shifts), and to similar jobs (lateral job shifts). Every respondent is at any point in his or her occupational career to experience any of these three types of job shifts, and as soon as a respondent has experienced a job shift, he or she immediately is at risk for a new job shift. This is a so-called repeated competing risks model (Blossfeld and Rohwer, 1995) in which job episodes are the primary units of analysis. This type of model is a parsimonious and therefore statistically powerful instrument to model events in occupational histories. A discrete-time competing risk model is estimated by applying multinomial logistic regression to a person-year file. The multinomial logistic regression model is a simple extension of the binary logistic model, in that it allows the modeling of effects of independent variables on a dependent variable with more than two nominal outcomes. Again, we correct the standard errors for bias introduced by the dependence between observations from the same household. Positive parameter estimates indicate that the likelihood to move to a destination state from the origin state increases, as the values of the independent variables increase, whereas negative parameter estimates indicate that the likelihood to move to a destination state from the origin state decreases, as the values of the independent variables increase.

4. Results

We begin with the analysis of labor force participation. Many studies have found differences in personality traits between men and women (Costa et al., 1988; Feingold, 1994; Goldberg et al., 1998) and differential consequences of sex differences

[2] We used the 'cluster' option in STATA 8, which provides a robust variance estimate that adjusts for within-cluster (i.e., within-household) correlation (Rogers, 1993; Williams, 2000).

Table 3
Summary of Heckman selection models for variables predicting whether or not respondents' income is observed

Variables:	Model 1 overall *B*	Model 2 women *B*	Model 3 men *B*	Test for equality of effect Model 2–Model 3
Sex (ref. = women)	0.635**			
	(0.036)			
Year of birth	0.033**	0.032**	0.038**	**
	(0.002)	(0.003)	(0.003)	
Level of education	0.092**	0.142**	0.058**	**
	(0.007)	(0.011)	(0.010)	
Marital status (ref. = not married)	0.120	0.080	0.426**	**
	(0.064)	(0.082)	(0.093)	
Child younger than 6 (ref. = no)	−0.129*	−0.353**	0.099	**
	(0.052)	(0.074)	(0.078)	
Year of survey (ref. = 1998)	0.132**	0.150**	0.090	n.s.
	(0.046)	(0.055)	(0.063)	
Constant	−66.260**	−65.240**	−74.981**	
	(4.763)	(5.483)	(6.801)	
Total number of observations	2926	1479	1447	
Number of censored observations	1227	793	434	
Number of uncensored observations	1699	686	1013	
ρ	−0.804**	0.014	−0.765**	

Note. n.s.: not significant; Robust standard errors in parentheses.
* $p < .05$.
** $p < .01$.

in personality traits for career success (Leong and Boyle, 1997; Melamed, 1995). Therefore, we present models for men and women separately,[3] in addition to an overall model based on the pooled male and female sub-sample. Table 3 first reports the results of these Heckman selection models for the pooled samples of men and women (an overall Model 1). Models 2 and 3 subsequently refer to the male and female sub-samples. Parameters in Table 3 represent estimates of binary probit selection models estimated with the Heckman procedure. The estimates are interpreted as the increase in the likelihood that the income is observed for each unit increase in the independent variable, after being standardized, $N \sim (0, 1)$.[4]

As could be expected, Model 1 shows that men are more likely than women to work at the time of the survey. Year of birth is a significant predictor of gainful employment, with the likelihood of working being higher for members of more

[3] See Table A2 for the estimates of the Heckman selection equations.

[4] The probit model is defined as $Pr(y = 1|x) = \Phi(xb)$, where Φ is the standard cumulative normal probability distribution and xb is called the probit score or index. Since xb has a normal distribution, interpreting probit coefficients requires thinking in the Z (normal quantile) metric. The interpretation of a probit coefficient, b, is that a one-unit increase in the predictor leads to increasing the probit score by b standard deviations. Because the interpretation in terms of effect sizes may be quite cumbersome, we rely primarily on the direction and significance of the estimated parameters.

recent birth cohorts. The likelihood of working is also higher as the level of educational attainment increases. If a respondent has a child, which is younger than 6-years old, the likelihood of working is significantly lower than for respondents who do not have a child—we will see that that applies to women's careers only. Finally, those who participated in the 2000 survey were more likely to work than those who participated in the 1998 survey.

Models 2 and 3 give the estimated effects of social and demographic background characteristics on the likelihood of working for the male and female sub-samples. Furthermore, in the fifth column we present the results of a test for the equality of coefficients between both models. In this way, we test for interaction effects of sex with other covariates. For both men and women, the likelihood of working is higher for members of more recent birth cohorts; this effect, however, is significantly stronger for men than for women. The likelihood of working significantly increases as men's and women's educational attainment increases, but this effect is significantly stronger among women than among men. Being married significantly increases the likelihood of gainful employment for men, but not for women. Having young children negatively affects women's labor market participation only. The likelihood of working is significantly higher for women in 2000 than in 1998. The test for equality of effects shows that the impact of survey year on the likelihood of gainful employment is not significantly different between both models.

Table 3 also exhibits the estimates of ρ. As we noted above, ρ can be used to characterize selectivity effects. We see that there is evidence of selection bias in the pooled sample and in the male sample, even if we control for social and demographic background characteristics. This means that other characteristics determine the likelihood of gainful employment among men. In the female sample, however, controlling for social and demographic background characteristics leads to a sufficient correction of selection bias, as the estimate of ρ for Model 2 is not significant. Presumably, most of the selection bias in the overall model is due to selectivity in the male sub-sample.

In Table 4, the findings of the Heckman regression analyses are presented. Specifically, we regressed the logarithm of net monthly labor income on social and demographic characteristics, the number of previous employers and the Big Five personality factors.

We first discuss the findings with respect to the effects of personality traits in the overall model. Only emotional stability is significantly related to income attainment: as expected, we find that as people are more emotionally stable, they are also more likely to have a higher income. Specifically, a unit (i.e., one standard deviation) increase on the emotional stability scale makes for an increase in income of 2.4%, holding constant for all other variables.

Turning to the effects of the control variables in Model 4, we infer that men have a higher income than women. Specifically, men make almost 20% more income than women, holding constant for other variables. Furthermore, individuals who belong to more recent birth cohorts have a lower income than individuals who belong to older birth cohorts. Because we control for the degree of labor market experience in this model (which, to some extent, also captures the effects of age) the negative effect of year of birth can be interpreted as an effect of diminishing returns to creden-

Table 4
Summary of Heckman regression models for variables predicting respondents' income

Variables:	Model 4 Overall *B*	Model 5 Women *B*	Model 6 Men *B*	Test for equality of parameters Model 5–Model 6
Extraversion	0.007	−0.005	0.020*	n.s.
	(0.008)	(0.012)	(0.010)	
Agreeableness	−0.000	0.022	−0.005	n.s.
	(0.009)	(0.014)	(0.011)	
Conscientiousness	0.012	0.010	0.013	n.s.
	(0.008)	(0.012)	(0.010)	
Stability	0.024**	0.029*	0.028*	n.s.
	(0.008)	(0.013)	(0.011)	
Openness to experience	−0.015	−0.008	−0.027**	n.s.
	(0.008)	(0.012)	(0.010)	
Sex (ref. = women)	0.198**			
	(0.023)			
Year of birth	−0.006**	0.000	−0.016**	**
	(0.002)	(0.003)	(0.003)	
Level of education	0.042**	0.062**	0.038**	n.s.
	(0.004)	(0.005)	(0.005)	
Level of education father	0.001	0.001	0.003	n.s.
	(0.003)	(0.004)	(0.003)	
Level of education mother	0.003	0.006	0.002	n.s.
	(0.004)	(0.005)	(0.005)	
Occupational status father	0.001**	0.001	0.001*	n.s.
	(0.001)	(0.001)	(0.001)	
Labor market experience	0.022**	0.028**	0.022**	n.s.
	(0.003)	(0.005)	(0.005)	
Labor market experience^2	−0.000**	−0.001**	−0.001**	n.s.
	(0.000)	(0.000)	(0.000)	
Number of previous employers	0.008**	0.013*	0.005	n.s.
	(0.003)	(0.005)	(0.004)	
Current weekly working hours	0.022**	0.032**	0.012**	**
	(0.001)	(0.001)	(0.002)	
Year of survey (ref. = 1998)	−0.040*	−0.007	−0.016	n.s.
	(0.017)	(0.023)	(0.019)	
Constant	18.564**	5.277	37.997**	
	(3.679)	(5.028)	(6.660)	
Observations	2926	1479	1447	

Note. n.s., not significant; Robust standard errors in parentheses.
* $p < .05$.
** $p < .01$.

tials. As educational attainment increases, people are more likely to have a higher income. A respondent's income is also higher when the father of the respondent occupied a job of higher occupational status. Moreover, years of labor market experience and the current weekly working hours have a positive effect on earnings. The quadratic term of labor market experience shows a negative departure from linearity. These effects are in accordance with findings from previous status attainment re-

search. Furthermore, we find that as people have had more employers or have longer weekly working hours, they also have a higher income.

Models 5 and 6 show the results of the Heckman regression analyses based on the male sample and female sub-samples. We first consider the associations between personality traits and earnings in both sub-samples. For women the decisive personality trait turns out to be emotional stability again: a unit increase on the emotional stability scale leads to an increase in income of about 3%. We find for men that a unit increase on the extraversion scale increases increase income with about 2%. Emotional stability also relates positively to earnings (an increase of 2.8% in earnings per unit change in emotional stability), whereas openness to experience relates negatively to earnings (a decrease of 2.7% in income per unit increase in openness to experience). These effects corroborate our expectations.

An additional analysis was performed on the basis of Models 4, 5, and 6. In particular, to gauge the importance of the personality variables simultaneously, we performed a likelihood-ratio test between the unconstrained Models 4, 5, and 6 and three constrained models, for the overall model and for both sexes (not shown here), in which the personality variables were omitted. In all three instances, this test was highly significant (overall model: $\chi^2(5) = 71.97$; model for men: $\chi^2(5) = 65.21$; model for women: $\chi^2(5) = 15.85$).

With respect to the effects of the control variables, we see that men who belong to more recent birth cohorts have a lower income than men who belong to older birth cohorts, but there is no evidence of such a negative effect in the female sub-sample. The test for equality of parameters between both models shows that the impact of year of birth is moderated by sex. Again, because we hold constant for the degree of labor market experience in this model, the negative effect of year of birth can be interpreted as an effect of diminishing returns to credentials for men.

Furthermore, as the level of educational attainment increases, both men's and women's income also increases. Among men, income is also higher when the father of the respondent occupied a job of higher occupational status. Years of labor market experience has a positive effect on earnings; furthermore, there is evidence for a significant negative departure from linearity as shown by its square. Among women, the number of previous employers relates positively to earnings. Finally, current weekly working hours relate to earnings among both men and women, but the effect is significantly stronger for women than for men.

Next, we turn to the analysis of status mobility. We first consider the relationship between personality traits and job mobility, controlling for the effect of demographic and social resources variables and the number of previous employers for the pooled sample. Note that we additionally control for marital status, having a child younger than six,[5] and type of job change. The result of this overall analysis is presented in Table 5.

[5] These characteristics were previously used to estimate the selection equation for income attainment. The Heckman procedure is not available for competing risks models. To correct to some degree for selection bias, we include these characteristics here as basic control variables.

Table 5
Summary of discrete time event history model for personality traits predicting respondents' likelihood of experiencing occupational status transitions (number of person-years = 39 443)

Variables:	No change vs. lateral change *B*	No change vs. upward change *B*	No change vs. downward change *B*
Extraversion	−0.062	0.080*	0.100*
	(0.036)	(0.040)	(0.042)
Agreeableness	0.067	−0.041	−0.019
	(0.041)	(0.041)	(0.047)
Conscientiousness	0.059	0.001	0.010
	(0.033)	(0.034)	(0.038)
Stability	−0.022	0.059	0.005
	(0.037)	(0.040)	(0.045)
Openness to experience	−0.033	0.013	0.086
	(0.035)	(0.041)	(0.045)
Year of birth	0.006	0.014**	0.014**
	(0.004)	(0.004)	(0.004)
Educational attainment	0.050**	0.082**	−0.068**
	(0.013)	(0.014)	(0.015)
Order of current job	0.391**	0.346**	0.373**
	(0.021)	(0.018)	(0.021)
Level of education father	0.006	0.020	0.024
	(0.014)	(0.013)	(0.014)
Level of education mother	−0.011	−0.016	−0.055**
	(0.015)	(0.016)	(0.017)
Occupational status father	0.001	0.005	−0.002
	(0.003)	(0.003)	(0.003)
Marital status (ref. = not married)	−0.061	−0.232**	−0.260**
	(0.071)	(0.077)	(0.082)
Child younger than 6 (ref. = no)	−0.090	−0.165*	−0.152
	(0.082)	(0.083)	(0.097)
Occupational status current job	0.002	−0.032**	0.028**
	(0.002)	(0.003)	(0.003)
Labor market experience	−2.005**	−1.528**	−2.380**
	(0.154)	(0.158)	(0.166)
Labor market experience^2	0.260**	0.183**	0.383**
	(0.043)	(0.043)	(0.042)
Current weekly working hours	−0.004	0.009**	0.003
	(0.004)	(0.003)	(0.003)
Type of job change (ref. = employer)	4.190**	4.492**	4.390**
	(0.119)	(0.113)	(0.117)
Year of survey (ref. = 1998)	−1.323**	−0.634**	−0.742**
	(0.083)	(0.079)	(0.081)
Sex (ref. = women)	−0.171*	0.350**	0.443**
	(0.080)	(0.087)	(0.097)
Constant	−15.090	−30.188**	−31.037**
	(8.065)	(7.629)	(8.715)

Note. n.s., not significant; Robust standard errors in parentheses.
* $p < .05$.
** $p < .01$.

The substantive findings for the personality traits in Table 5 show, first of all, that extraverts are more likely to experience upward moves as well as downward moves in status. Specifically, for a unit change in extraversion, the odds of experiencing an upward move in occupational status vs. experiencing no change are expected to change by a factor $\exp(0.080) = 1.083$, holding all other variables constant. On the other hand, we can see that for a unit change in extraversion, the odds of experiencing a downward change in status vs. experiencing no change are expected to change by a factor $\exp(0.100) = 1.105$, holding all other variables constant. Thus, the prediction that extraversion will be positively related to career development is partly supported. The other hypotheses, however, are not corroborated by the findings: no additional significant direct relations between personality traits and status moves can be detected.

Concerning the effects of the control variables, the model shows, first of all, that people from more recent birth cohorts are not only more likely to experience upward status moves than people who belong to older birth cohorts, but also more likely to experience downward status moves. Furthermore, as people's level of schooling increases, they are more likely to experience lateral and upward changes in status, but less likely to experience downward changes in status. The higher the number of people's previous employers is, the higher are the odds of experiencing all three kinds of status moves. As the level of education of the mother increases, the odds are higher that a respondent experiences no change in status. Being married reduces the likelihood of experiencing an upward move or a downward move in occupational status. Having a child younger than six also reduces the odds of experiencing an upward move in status. People's occupational status negatively affects their rate of experiencing upward moves, which reflects a ceiling-effect, and a positive effect on downward moves, which reflects a floor-effect (de Graaf, 1989). The partial effect of labor market experience is negative for lateral, upward, and downward moves and we also detect a significant positive deviation from the latter linear effect.

Longer weekly working hours increase the odds of experiencing an upward change in occupational status. Moreover, within-employer shifts seem to enhance people's status mobility: people who experienced a within-employer shift are more likely to experience not only a lateral and an upward move, but also a downward move in socio-economic status than men who experience a between-employer change of job. Thus, firm-internal labor markets appear to be important determinants of status shifts. People interviewed in the 2000 survey were less likely to experience a status shift than people who were interviewed in the 1998 survey. This finding is probably a consequence of the fact that in the 2000 survey only 14 job changes were recorded by design, whereas in the 1998 survey, up to 19 job changes were recorded. Finally, men are more likely than women to experience both upward changes and downward changes in status, but less likely to experience lateral changes in status.

The models presented in Table 6 are identical to the model in Table 5, except that the discrete time event history model is estimated separately on the male and female sub-sample. We again report the significance levels of tests for the equality of the effects for men and women. This provides a test for interaction effects of sex with other covariates. Note that we only report the findings with respect to the direct relation-

Table 6
Summary of discrete time event history model for personality traits predicting men and women's likelihood of experiencing occupational status transitions

	No change vs. lateral change		Test for equality of effect	No change vs. upward change		Test for equality of effect	No change vs. downward change		Test for equality of effect
Variables:	Women *B*	Men *B*		Women *B*	Men *B*		Women *B*	Men *B*	
Extraversion	−0.028	−0.093	n.s.	0.114	0.084	n.s.	0.179*	0.069	n.s.
	(0.052)	(0.050)		(0.077)	(0.047)		(0.076)	(0.051)	
Agreeableness	0.060	0.067	n.s.	−0.025	−0.047	n.s.	−0.086	0.010	n.s.
	(0.058)	(0.057)		(0.074)	(0.051)		(0.082)	(0.056)	
Conscientiousness	0.040	0.069	n.s.	−0.124*	0.051	*	−0.029	0.017	n.s.
	(0.045)	(0.048)		(0.060)	(0.044)		(0.062)	(0.048)	
Stability	−0.002	−0.018	n.s.	0.048	0.051	n.s.	0.127	−0.067	*
	(0.051)	(0.054)		(0.077)	(0.048)		(0.070)	(0.056)	
Openness to experience	−0.017	−0.040	n.s.	0.043	0.000	n.s.	0.133	0.074	n.s.
	(0.053)	(0.048)		(0.075)	(0.049)		(0.069)	(0.056)	
Constant	−25.027*	−7.475		−31.702*	−28.664**		−62.167**	−19.580	
	(11.583)	(10.060)		(12.737)	(9.143)		(15.800)	(10.398)	
Number of person-years	12796	26647		12796	26647		12796	26647	

Note. n.s., not significant; Robust standard errors in parentheses. Estimated effects of personality traits are controlled for effects of social and demographic characteristics (see Table A2).

* $p < .05$.

** $p < .01$.

ships between personality traits and status mobility. However, these estimates are controlled for the effects of demographic and social resources variables, the number of previous employers, and the type of job change. The estimates for these control variables are reported in Table A2.

These separate models for men and women show only few significant coefficients for personality traits, and then, only among women. Conscientious women are less likely to experience an upward move in status: for a unit change in conscientiousness, the odds of experiencing an upward move in status vs. experiencing no change are expected to change by a factor $\exp(-0.124) = 0.883$, controlling for other variables. Alternatively, since $1/0.883 = 1.132$, we can say that with every unit increase in conscientiousness, the odds of experiencing no change in occupational status increase with about 13%. This effect is the opposite of what was predicted, namely that higher levels of conscientiousness would be positively related to upward moves. Note that sex moderates the direct effect of conscientiousness on the likelihood of experiencing an upward status move.

Extraversion is positively related to the risk of a downward move in status: with every unit increase in extraversion, the odds for women of experiencing a downward change in occupational status rather than experiencing no change increase with about $100(\exp(0.179\text{-}1)) = 44\%$. This effect is also the opposite of what was predicted, namely that higher levels of extraversion would be positively related to upward moves.

Also for these models, based on the male and female samples, we performed a likelihood-ratio test between the unconstrained models for males and for females, on the one hand, and two corresponding constrained models (not shown here) in which the personality variables were omitted, on the other hand. For both the male and female sample, this test was highly significant (male sample: $\chi^2 = 32.85$, $df = 15$; female sample: $\chi^2 = 37.82$, $df = 15$). This shows that models in which personality traits are excluded fit poorly compared to models in which personality traits are included.

5. Summary and discussion

In this paper, we have investigated—from a multidisciplinary point of view—whether, and if so, to what extent personality traits are directly related to men and women's attainment process in terms of earnings and socioeconomic status mobility, after controlling for sociological variables. Our analyses show few direct associations between personality traits on the one hand, and earnings and socioeconomic status mobility, on the other hand. In addition, in most instances these associations were different between men and women. Although we did not find overwhelming evidence for direct associations between personality traits and career success, likelihood ratio tests showed that the general hypothesis 'personality matters' could not be rejected altogether. But before we turn to the substantive findings of this study, three limitations of its design must be pointed out.

First, despite the use of retrospective data, our study is cross-sectional by design. Consequently, individual traits are measured at the time of survey, which may make

the causal interpretation of the association between individual traits and career development problematic. Evidence exists that there are also effects of job characteristics on personality (Kohn and Schooler, 1978, 1982). Although future longitudinal research—using a prospective design—is needed to firmly establish the causal direction between personality and career outcomes, prior research by Robins et al. (2001), Judge et al. (1999), and Costa and McCrae (1988) suggest that the causal direction runs predominantly from personality to career outcomes. These studies show that personality is relatively stable during the life-course. Indeed, it is likely that there is a substantive genetic influence on personality traits (McCrae et al., 2001). Therefore, it seems quite reasonable to assume that personality affects career outcomes.

Second, our data refers to self-report measures instead of behavioral measures. This raises the possibility that a personality trait measured with a self-report questionnaire does not predict behavior associated with this trait in occupational careers. Improvement could be gained if personality would be assessed using other data sources, such as behavioral measures or reports by independent interviewers (Bouchard et al., 1999). Only a future systematic comparison between these two ways of measurement can shed light on this issue. However, we presented positive evidence that our brief measures of personality correlate rather well with Goldberg's (1992) well-accepted longer scales, which, presumably, makes them useful predictors in this study.

Third, although we analyzed extensive datasets, which include a broad range of variables, not all relevant control variables were available. Most importantly, we could not control for intelligence. This factor is an important determinant of academic success (cf. Ackerman and Heggestad, 1997; Farsides and Woodfield, 2003) and of occupational success (Dreher and Bretz, 1991; Judge et al., 1999; Siegel and Ghiselli, 1971). Another important control variable we could not include was a valid measure of work motivation. We were only able to control for the weekly hours worked by a person, which is obviously only a rough measure for work motivation. Additional controls might have been the number of evenings worked per month and the hours per week a person wishes to work (cf. Boudreau et al., 2001). Presumably, not—or only marginally—controlling for these important variables will have led to an overestimation of the effects of the personality variables in our analyses.

Turning to the substantive findings, we first considered the relationship between personality and earnings. For men, we found—in accordance with our predictions—a direct positive relationship between extraversion and emotional stability on the one hand, and earnings, on the other hand. Furthermore, we also found evidence for the hypothesis stating a direct negative relationship between openness to experience and earnings. Among women, emotional stability was—as predicted—positively related to earnings when controlling for the effects of other variables. The other personality traits were not directly related to women's income attainment.

We furthermore investigated how individual differences might be related to status changes during one's occupational career. In the male sample, no evi-

dence was found for the argument that personality plays a role on occupational career success. For women, some of the findings were not according to expectation. Higher levels of extraversion in women were related to a higher rate of downward moves. In addition, higher levels of conscientiousness were negatively related to the risk of upward moves, where the opposite was expected.

Our findings are to some extent in accordance with the findings of previous studies, but we have also found some differing results. In accordance with findings by Judge et al. (1999), Boudreau et al. (2001), and Seibert and Kraimer (2001), we found, albeit only for men, positive associations between extraversion on the one hand, and remuneration and upward status mobility on the other. We also found, consistent with findings by Judge et al. (1999) and Boudreau et al. (2001) that emotional stability is positively related to attained income. This association was found for both men and women. On the other hand, the studies by Judge et al. (1999) and Boudreau et al. (2001) reported negative effects of agreeableness on occupational career outcomes, but our study found no effects of this personality trait. These previous studies did not find evidence for a substantial effect of conscientiousness on career outcomes, and also this study only found very limited evidence, namely a negative relation between this trait and women's upward status mobility. Finally, with respect to the effects of openness to experience, we found a negative relationship with men's income attainment and a small positive relationship with the risk of downward status mobility for women. This result is in line with prior findings by Seibert and Kraimer (2001).

Especially the findings with respect to extraversion and conscientiousness among women in the context of job mobility are surprising. For example, it is often believed that being a social, active, and risk-taking optimist who may be prone to assertiveness—characteristics of extravert persons—is conducive to the career paths of modern women, which increasingly demand courage and briskness (Pulkkinen et al., 1999). These findings suggest that for women, personality characteristics matter very little for upward socioeconomic status mobility. For them, labor market experience, how much they ambition to make a career, and their continuous participation in the labor market seem to be more important for career advancement than for men. However, the group of women who choose to have a full working career is probably selective. Perhaps these women have an outspoken extravert or conscientious personality and do only they succeed in their occupations.

Such a selection mechanism, based on personality traits, lies at the heart of Holland's theory on career choice and career success (Holland, 1973, 1996) and of the theory of work adjustment (Dawis and Lofquist, 1984): both theories lead us to expect that there will be such a correspondence of an individual's personality traits with the occupational environment. Higher levels of extraversion and conscientiousness may be positively related to a higher risk of downward moves if this selectivity plays a role. We only limitedly controlled for differential selection into the labor market of men and women. This could explain these unexpected effects. Future studies, which address the differential impact of person-

ality on career success between men and women, could attempt to better control for this kind of selection bias.

Overall, our findings suggest that personality traits contribute importantly to processes of status attainment in earnings and in job mobility. Likelihood ratio model comparisons indicated that the models excluding personality traits fitted poorly compared to the models including the personality traits. However, most of the direct relations between personality variables and career outcomes failed to reach significance. The number of significant direct relationships between personality variables and career outcomes, which we found was small and the strength of these relationships was also relatively weak. The most consistent finding is the positive relationship between emotional stability and income attainment, which underscores the importance of emotional stability as a key personality trait. It has been found to positively affect outcomes in several fields of research, not only in vocational studies, but also in other areas such as studies on marital stability and marital quality (Bouchard et al., 1999; Kelly and Conley, 1987).

Several explanations can be offered for the fact that we find less evidence for a direct role of personality on occupational career success than prior studies. One explanation could be that the Big Five personality factors, as we use them in this study, might simply be too generally formulated and not comprehensive enough to detect which specific components in one's personality structure are related to positive career outcomes. A related explanation is the possibility that the personality traits measured with a self-report questionnaire do not predict behavior associated with this trait in occupational careers. If this is true, our findings would be a methodological artifact of the research design. Another explanation could lie in differences with respect to sampling: samples used in prior studies may have been more selective of persons with more pronounced personality traits, whereas our sample is more representative of a general population. In such a broader sample, specific personality characteristics may then proof to be of much less significance than in a more selective sample, of, for example, managers. A related explanation for our differing findings could be that most prior studies analyzed only US based samples, whereas we analyzed data from two Dutch nationally representative samples. It may very well be that some personality traits are more important to career success in certain cultures than others. However, such cross-level interactions between individual traits and cultural characteristics have to await cross-nationally comparable data to be investigated more closely. Finally, the importance of personality traits may not so much lie in direct relationships between individual traits and career outcomes, but rather in specific combinations of personality traits affecting career outcomes. The existence of interactions among individual traits, which are associated with career success, could explain our finding that models excluding personality characteristics fit poorly compared to models including personality characteristics.

The issue of whether and how personality—in addition to sociological variables—affects occupational career outcomes is an important one. A first promising line for future research could focus on an assessment of the impact of interactions between personality traits on career outcomes that we mentioned

above. It would also be interesting to investigate how well other conceptualizations of personality traits fare in relating to occupational career success. One may think of such traits as intellectual flexibility, self-directedness of orientation, and sense of well-being or distress following the Kohn–Schooler approach (Spenner, 1988) or personality hardiness, which is identified by a sense of control over life's vicissitudes, a sense that stressors represent challenges rather than threats, and a sense of commitment to life tasks (Hobfoll, 2002). However, a decisive answer to this question must be given by new research.

Finally, future research could address the question how individuals with different character structures select into, and succeed in, occupations that reward their particular personality type, as is suggested by Silver and Spilerman (1990). In particular, in this study we have examined the absolute effects of personality traits on income and status, which are hierarchical dimensions of occupational success. The work by Roe (1957) and Holland (1973), among others, suggests that not only these absolute effects may be important, but also the degree of fit or matching of individuals to occupations and careers which satisfy their needs and which favor their personality. The well-known personality tests used by vocational counselors are based on the notion of seeking a fit between individual characteristics and corresponding occupational alternatives, not on maximizing income or job status. Thus, a promising line of investigation could be not only to include personality traits as such, but also add information about the quality of the matching process into a stratification model. For example, future studies could include the degree of correspondence between personality traits and job characteristics in terms of Holland's RIASEC typology as a predictor of career success, in addition to sociological variables in an attainment model. If applied to detailed occupational choices, individual differences might be useful instruments to give substance to the notion of matching of persons and their characteristics to jobs, and, eventually, lead to a better understanding of why some individuals are more successful in their occupational career than others.

Appendix A

See Tables A1 and A2.

Table A1
Markers of the Big Five personality traits

Extraversion	Agreeableness	Conscientiousness	Emotional stability	Openness to experience
Reserved[a]	Pleasant	Sloppy[a]	Irritable[a]	Imaginative
Quiet[a]	Helpful	Careful	Nervous[a]	Intellectual
Introverted[a]	Agreeable	Neat	Touchy[a]	Complex
Talkative	Cooperative	Thorough	Anxious[a]	Innovative
Shy[a]	Kind	Organized	Fearful[a]	Artistic
Withdrawn[a]	Sympathetic	Systematic	High-strung[a]	Creative

Source: van Eijck and de Graaf (2001).
[a] Scales have been reversed.

Table A2
Discrete time event history models for background characteristics predicting the likelihood of occupational status transitions

	No change vs. lateral change		Test for equality of effect	No change vs. upward change		Test for equality of effect	No change vs. downward change		Test for equality of effect
Variables:	Women *B*	Men *B*		Women *B*	Men *B*		Women *B*	Men *B*	
Year of birth	0.011	0.002	n.s.	0.015*	0.013**	n.s.	0.030**	0.008	*
	(0.006)	(0.005)		(0.006)	(0.005)		(0.008)	(0.005)	
Level of education father	0.004	0.004	n.s.	0.030	0.019	n.s.	0.033	0.021	n.s.
	(0.017)	(0.020)		(0.023)	(0.017)		(0.024)	(0.018)	
Level of education mother	−0.016	−0.007	n.s.	−0.046	0.001	n.s.	−0.109**	−0.027	*
	(0.020)	(0.021)		(0.027)	(0.020)		(0.029)	(0.021)	
Occupational status father	0.001	0.002	n.s.	−0.001	0.006*	n.s.	−0.001	−0.003	n.s.
	(0.003)	(0.003)		(0.006)	(0.003)		(0.005)	(0.003)	
Marital status (ref. = not married)	−0.051	−0.093	n.s.	−0.410**	−0.104	n.s.	−0.295*	−0.223*	n.s.
	(0.106)	(0.100)		(0.147)	(0.093)		(0.149)	(0.096)	
Child younger than 6 (ref. = no)	−0.167	−0.081	n.s.	−0.737**	−0.046	**	−0.247	−0.125	n.s.
	(0.140)	(0.103)		(0.220)	(0.094)		(0.219)	(0.110)	
Occupational status current job	0.006	−0.001	n.s.	−0.030**	−0.035**	n.s.	0.029**	0.027**	n.s.
	(0.004)	(0.003)		(0.005)	(0.003)		(0.005)	(0.003)	
Labor market experience	−2.118**	−1.886**	n.s.	−2.201**	−1.302**	*	−2.671**	−2.281**	n.s.
	(0.291)	(0.192)		(0.358)	(0.188)		(0.372)	(0.192)	
Labor market experience^2	0.240*	0.238**	n.s.	0.345**	0.128*	n.s.	0.468**	0.356**	n.s.
	(0.097)	(0.050)		(0.103)	(0.051)		(0.109)	(0.048)	
Current weekly working hours	−0.006	−0.003	n.s.	0.014**	0.003	n.s.	0.005	0.001	n.s.
	(0.006)	(0.005)		(0.004)	(0.004)		(0.006)	(0.004)	
Type of job change (ref. = employer)	4.501**	3.931**	*	4.265**	4.603**	n.s.	4.251**	4.439**	n.s.
	(0.185)	(0.151)		(0.181)	(0.144)		(0.185)	(0.148)	
Year of survey (ref. = 1998)	−1.342**	−1.319**	n.s.	−0.688**	−0.615**	n.s.	−0.587**	−0.822**	n.s.
	(0.116)	(0.112)		(0.154)	(0.093)		(0.141)	(0.101)	
Educational attainment	0.046*	0.056**	n.s.	0.094**	0.074**	n.s.	−0.061*	−0.075**	n.s.
	(0.021)	(0.018)		(0.027)	(0.017)		(0.028)	(0.018)	
Order of current job	0.416**	0.386**	n.s.	0.419**	0.319**	*	0.422**	0.357**	n.s.
	(0.033)	(0.025)		(0.045)	(0.020)		(0.041)	(0.025)	
Number of person-years	12796	26647		12796	26647		12796	26647	

Note. n.s., not significant; Robust standard errors in parentheses.

* $p < .05$.

** $p < .01$.

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